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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/804,719	03/19/2004	Nusrallah Jubran	3216.58US02	7514

24113 7590 05/31/2006

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EXAMINER	
DOTE, JANIS L	

ART UNIT	PAPER NUMBER
1756	

DATE MAILED: 05/31/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/804,719	JUBRAN ET AL.	
	Examiner	Art Unit	
	Janis L. Dote	1756	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07 April 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-19 and 28-33* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3-14,16-19,28 and 30-33* is/are rejected.

7)☒ Claim(s) *2,15 and 29* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *7/12/04;10/15/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

1. The examiner acknowledges the cancellation of claims 20-27 set forth in the amendment filed on Apr. 7, 2006. Claims 1-19 and 28-33 are pending.

2. Applicants' election without traverse of the invention of Group I, claims 1-19 and 28-33, in the response filed on Apr. 7, 2006, is acknowledged.

3. The examiner deleted the reference Japanese Patent JP 07-149704 listed on the form PTO-1449 filed on Oct. 15, 2004, because applicants did not provide a copy of the reference. Applicants only provided a English-language abstract describing the reference.

The examiner has considered the English-language abstract describing JP 07-149704 and has properly listed the abstract on the attached form PTO-892.

4. Applicants' claim for domestic priority under 35 U.S.C. 119(e) is acknowledged. However, the provisional applications upon which priority is claimed fail to provide adequate support under 35 U.S.C. 112 for claims 1-19 and 28-33 of this application.

(1) For example, Provisional Application 60/474,543 (Application'543) does not provide an adequate written description of the following subject matter recited in the instant claims. The following examples of subject matter recited in the instant claims that is not adequately described in the provisional application are not exhaustive.

(1a) The generic formulas recited in instant claims 1, 5, 7-14, 18, 28, and 32.

Application'543 describes a charge transport material having the formula Y=N-N=X=N-N=Y' where Y and Y' are, independently, a 9-fluorenyl group and X is either a 2,5-cyclohexadienylidene group or 2,4-cyclohexadienylidene group. Application'543, page 6, lines 5-8. Application'543 does not broadly describe X as "a conjugated linking group that allows the delocalization of pi electrons over at least Y and Y'" as recited in those claims.

Application'543 also does not describe the 9-fluorenyl group as being represented by the formula recited in instant claims 5, 18, and 32.

(1b) The definition of "X" recited in instant claims 2-4, 15-17, and 29-31.

As discussed in item (1a) above, Application'543 describes "X" as being either a 2,5-cyclohexadienylidene group or 2,4-

cyclohexadienylidene group. Application'543 does not describe "X" as comprising a 1,2-ethanediylidene group, a 1,4-phenylenedimethylidyne group, a bicyclohexylidene-2,5,2',5'-tetraene group or a bicyclohexylidene-2,4,2'4'-tetraene group, as recited in instant claims 2, 15, and 29. Nor does Application'543 describe "X" as comprising a combination of the groups recited in those claims. Application'543 further does not describe "X" as comprising a $(C_6R_1R_2R_3R_4)_n$ group where C_6 is a cyclohexadienylidene group as recited in instant claims 3, 4, 16, 17, 30, and 31.

(1c) Application'543 does not describe the last three formulas listed in instant claims 6, 19, and 33.

(2) For example, provisional Application 60/483,727 (Application'727) does not provide an adequate written description of the following subject matter recited in the instant claims. The following examples of subject matter recited in the instant claims that are not adequately described in the provisional application are not exhaustive.

(2a) The generic formulas recited in instant claims 1, 5, 7-14, 18, 28, and 32.

Application'727 describes a charge transport material having the formula Y=N-N=X=N-N=Y' where Y and Y' are, independently, a 9-fluorenyl group and X is a bicyclohexylidene-

2,5,2',5'-tetraene group. Application'727, page 2, lines 10-14. Application'727 does not broadly describe X as "a conjugated linking group that allows the delocalization of pi electrons over at least Y and Y'" as recited in those claims.

Application'727 also does not describe the 9-fluorenyl group as being represented by the formula recited in instant claims 5, 18, and 32.

(2b) The definition of "X" recited in instant claims 2-4, 15-17, and 29-31.

As discussed in item (2a) above, Application'727 describes "X" as being a bicyclohexylidene-2,5,2',5'-tetraene group. Application'727 does not describe "X" as comprising a 1,2-ethanediylidene group, a 1,4-phenylenedimethylidyne group, a 2,4-cyclohexadienylidene group, 2,5-cyclohexadienylidene group, or a bicyclohexylidene-2,4,2'4'-tetraene group, as recited in instant claims 2, 15, and 29. Nor does Application'727 describe "X" as comprising a combination of the groups recited in those claims. Application'727 further does not describe "X" as comprising a $(C_6R_1R_2R_3R_4)_n$ group where C_6 is a cyclohexadienylidene group as recited in instant claims 3, 4, 16, 17, 30, and 31.

(2c) Application'727 does not describe the first nine formulas listed in instant claims 6, 19, and 33.

Accordingly, the subject matter recited in instant claims 1-19 and 28-33 is accorded benefit of the filing date, Mar. 19, 2004, of the instant application.

5. The abstract of the disclosure is objected to because it is not limited to a single paragraph. Correction is required. See MPEP § 608.01(b).

Applicants are reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

6. The disclosure is objected to because of the following informalities:

(1) The specification describes the teachings in copending applications 10/425,333 and 10/396,536 at page 13, line 28, to page 14, line 2, and page 20, lines 7-10, respectively.

However, the specification does not provide the current status of said applications, e.g., "which is now US Patent No. . . ." or "abandoned."

(2) The specification discloses that the R groups in the formulas $(C_6R_1R_2R_3R_4)_n$ and on the 9-fluorenylidene group disclosed at page 22, line 14, can be "part of a ring." See the specification, page 22, lines 8 and 22. However, it is not clear what is meant by the term "part of a ring group." The specification does not define said group.

(4) The use of trademarks, e.g., Calgon [sic: CALGON} at page 12, line 10, has been noted in this application. It should be capitalized wherever it appears and be accompanied by the generic terminology. This example is not exhaustive. Applicants should review the entire specification for compliance.

Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner which might adversely affect their validity as trademarks.

Appropriate correction is required.

7. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required:

In claim 10, the term "belt" lacks antecedent basis in the specification. See page 3, line 11, and page 11, lines 11-12, of the specification, which discloses a "flexible belt." The term "belt" is broader than the disclosed flexible belt because it encompasses belts that are not flexible.

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claims 3-6, 16-19, and 30-33 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Instant claims 3, 4, 16, 17, 30, and 31 are indefinite in the phrase "R_1, R_2, R_3, and R_4 comprise, each independently . . . a part of a ring group" because it is not clear what is meant by

the term "a part of a ring group." The instant specification does not define said group.

Instant claims 5, 18, and 32 are indefinite in the phrase "R_5, R_6, R_7, R_8, R_9, R_{10}, R_{11}, and R_{12}, each independently . . . a part of a ring group" because it is not clear what is meant by the term "a part of a ring group," because it is not clear what is meant by the term "a part of a ring group." The instant specification does not define said group.

Instant claims 6, 19, and 33 are indefinite in the phrase "the charge transport material has the following formulae" because it is not clear how the material can be all twelve formulas at the same time.

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless -
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

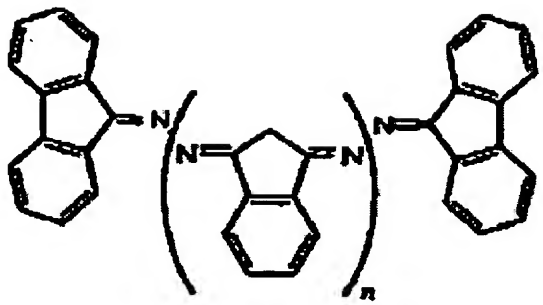
11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

12. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f), or (g) prior art under 35 U.S.C. 103(a).

13. Claim 28 and 32 are rejected under 35 U.S.C. 102(b) as being anticipated by Bethell et al., J. Chem. Soc., Perkin Trans., 2, 1081-1086 (1996) (Bethell).

Bethell teaches the following compound that meets the compositional limitations of formulas recited in instant claims 28 and 32:



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where n is 1. See Table 1 at page 1082. According to Bethell, the observed characteristics of the compound's infrared spectra provide "evidence for a large, positive charge on the CH_2-groups of the indanediylidene units, thus indicating that hyperconjugation takes place between the CH_2 group and the aromatic rings." Page 1082, second column, lines 3-6, from the bottom. Accordingly, the indanediylidene unit meets the limitation "conjugated linking group that allows the delocalization of pi electrons over at least Y and Y'," recited in the instant claims.

14. Claims 1, 5, 7-14, 18, 28, and 32 are rejected under 35 U.S.C. 103(a) as being obvious over US 2005/0265717 A1 (Tokarski), as evidenced by provisional application 60/483,726 (Application'726). Tokarski has a filing date of Jun. 30, 2003,

which is prior to the filing date, Mar. 19, 2004, of the instant application. See paragraph 4, supra.

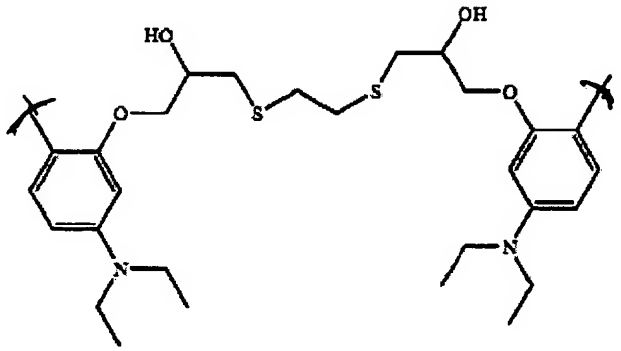
The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). This rejection might also be overcome by showing that the reference is disqualified under 35 U.S.C. 103(c) as prior art in a rejection under 35 U.S.C. 103(a). See MPEP § 706.02(l)(1) and § 706.02(l)(2).

Tokarski discloses an electrophotographic organophotoreceptor and an electrophotographic imaging apparatus comprising said organophotoreceptor. The apparatus further comprises a light imaging component and a toner disperser as recited in instant claims 11 and 12. Tokarski, paragraphs 0006-0015; and Application'726, page 2, line 10, to page 3, line 3. The organophotoreceptor comprises an electrically conductive substrate and a photoconductive element, which can comprise a charge generation layer comprising a binder resin and a charge generating material, and a charge transport

layer comprising a binder resin and a charge transport material. Tokarski, paragraph 0028; and Application'726, page 5, lines 20-28. The multi-layered photoconductive element meets the layer structure recited in instant claim 7. Tokarski discloses that the organophotoreceptor may comprise a substrate that meets the limitation recited in instant claim 10. Tokarski, paragraph 0027; and Application'726, page 5, lines 15-19. Tokarski further discloses that the photoconductive layer may further comprise a second charge transport material, which meets the second charge transport material limitations recited in instant claims 8, 9, 13, and 14. Tokarski, paragraph 0047; and Application'726, page 10, lines 10-12.

Tokarski teaches that the charge transport material can be the particular compound represented in formulas (2) to (8). See Tokarski, pages 9 and 10; and Application'726, pages 15-17. Compounds (2) to (8) comprise two azine groups, wherein each azine group is bonded to a 9-fluorenylidene group, which meets the groups Y and Y' of the formula recited in the instant claims. The compounds (2) to (8) meet the compositional limitations of the formulas recited in instant claims 1, 5, 11, 18, 28, and 32, except for the linking group X being "a conjugated linking group that allows the delocalization of pi

electrons over at least" one of the fluorenylidene groups as recited in the instant claims. For example, in Tokarski compound (2), the linking group connecting the two azine groups is



Tokarski discloses that compounds (2) to (8) are represented by formula (1) described in paragraphs 0032-0035 (Application'726, page 6, line 20, to page 6, line 20, to page 7, line 6). Formula (1) comprises the group -X-Z-X'-, where the groups X and X' are aromatic groups and the linking group Z is $-(CH_2)_m-$ where m is an integer of 1 to 20 (Application'726, 1 to 30) and one or more of the methylene groups can be replaced with the groups disclosed by Tokarski. See Tokarski paragraph 0035, lines 1-5; and Application'726, page 6, line 24, to page 7, line 3. For example, in Tokarski compounds (2)-(8), the groups X and X' are $-(C_6H_3)-$. In Tokarski compound (2), the linking group Z is represented by the group $-O-CH_2-CH(OH)-CH_2-S-(CH_2)_2-S-$

CH_2-CH(OH)-CH_2-O-. As discussed supra, Tokarski teaches that the linking group Z can equally be $-(CH_2)_m-$ where m is 1 and where the methylene group is replaced with an aromatic group. Tokarski teaches that the aromatic group can be a divalent phenyl or naphthyl group. Tokarski, paragraphs 0035 and 0038; Application'726, page 7, lines 1 and 3. Tokarski further teaches that the aromatic group can be any conjugated ring system containing 4n + 2 pi-electrons. Paragraph 0036. Thus, the Tokarski group -X-Z-X'- where Z is an aromatic group, meets the "conjugated linking" group X recited in the instant claims.

According to Tokarski, when the charge transport compound of the formula disclosed in paragraphs 0032-0036 (Application'726, page 6, line 20, to page 7, line 6) is used as the charge transport material in an organophotoreceptor, the organophotoreceptor "can be used successfully with both dry and liquid toners to produce high quality images. The production of high quality images can be maintained after repeating cycling." Tokarski, paragraph 0018; and Application'726, page 3, lines 23-25.

It would have been obvious for a person having ordinary skill in the art, in view of the teachings of Tokarski, to replace the Tokarski linking group Z in Tokarski compounds (2) to (8) with an aromatic group, such as phenylene or naphthalene,

such that the resultant compounds are within the compositional limitations of the formula recited in the instant claims, and to use the resultant compounds as the charge transport material in the organophotoreceptor disclosed by Tokarski. That person would have had a reasonable expectation of successfully obtaining an organophotoreceptor and an electrophotographic imaging apparatus that can be used successfully with both dry and liquid toners to provide high quality images, which can be maintained after repeating cycling as taught by Tokarski.

15. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

16. The following obviousness-type double patenting rejections are provisional because the conflicting claims have not in fact been patented.

17. Claims 1, 5, 8, 9, 11-14, 18, 28, and 32 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-22 and 35-42 of copending Application No. 10/900,785 (Application'785), as evidenced by that portion of the disclosure in Application'785 that supports the subject matter recited in the claims of Application'785.

Although the conflicting claims are not identical, they are not patentably distinct from each other because the claimed subject matter recited in Application'785 renders obvious the subject matter recited in the instant claims.

Reference claim 8, which depends from reference claim 7, which depends from reference claim 1, recites an organophotoreceptor comprising a photoconductive element and an electrically conductive substrate, where the photoconductive element comprises a charge generation material and a charge

transport compound. Reference claim 9, which depends from reference claim 1, requires that the photoconductive element further comprise a second charge transport material, which meets the second charge transport material limitation recited in instant claims 8 and 9. Reference claim 19, which depends from reference claim 18, which depends from reference claim 12, recites an electrophotographic imaging apparatus comprising a light imaging component and an organophotoreceptor comprising a photoconductive element and an electrically conductive substrate, where the photoconductive element comprises a charge generation material and a charge transport compound. Reference claim 22, which depends from reference claim 12, requires that the apparatus further comprise a toner disperser, which meets the toner disperser component recited in instant claim 12. Reference claim 20, which depends from reference claim 12, requires that the photoconductive element further comprise a charge transport material, which meets the second charge transport material limitation recited in instant claims 13 and 14. Reference claim 42, which depends from reference claim 41, which depends from reference claim 35, recites a charge transport compound.

The charge transport compound recited in reference claims 8, 19, and 42, is represented by the formula recited in

reference claims 1, 12, and 35, respectively, where the group R_1 is represented by either of the two formulas recited in reference claims 7, 18, and 41, and the Z groups in those two formulas can be the azine-containing-9-fluorenylidene group (i.e., the third formula) recited in reference claims 8, 19, and 42. Reference claims 5, 16, and 27, which depend from reference claims 1, 12, and 35, respectively, require that the group Y in the charge transport compound formula recited in instant claims 1, 12, and 25, be a fluorenylidenyl group and R_3 be a bond between Y and the carbon atom adjacent to Y. The claims of Application'785 do not explicitly recite any examples of the charge transport material. However, that portion of Application'785 that supports the charge transport material of the formula recited in the reference claims teaches that such a charge transport material can be represented by chemical formulas (3) or (6) at page 24 of Application'785. The compounds represented by chemical formulas (3) and (6) meet the charge transport formula recited in reference claims 1, 5, 11, 18, 28, and 32. When addressing the issue of whether a claim in an application defines an obvious variation of an invention claimed in a patent, "those portions of the specification which support the patent claims may be also be examined and considered." See MPEP 804,II.B.1, p. 800-22, citing In re Vogel,

164 USPA 619, 622 (CCPA 1970). Application'785 compounds (3) and (6) meet the charge transport material formula recited in the instant claims.

It would have been obvious for a person having ordinary skill in the art, in view of the subject matter recited in the claims of Application'785, as evidenced by that portion of the disclosure in Application'785 that supports the subject matter recited in the claims of Application'785, to make and use a charge transport material that is within the compositional limitations of the formula recited in the instant claims, and to use the resultant compound as the charge transport material in the organophotoreceptor and in the imaging apparatus recited in the claims of Application'785. That person would have had a reasonable expectation of successfully obtaining a charge transport compound that is capable of transporting charges in an organophotoreceptor, and an organophotoreceptor and an electrophotographic imaging apparatus that are capable of being used in an electrophotographic process to proved toned images.

18. Claims 7 and 10 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-22 and 35-42 of copending Application'785, as evidenced by that portion of the disclosure

in Application'785 that supports the subject matter recited in the claims of Application'785, in view of Diamond, Handbook of Imaging Materials, pp. 395-396.

The subject matter recited in the claims of Application'785, as evidenced by that portion of the disclosure in Application'785 that supports the subject matter recited in the claims of Application'785, renders obvious the organophotoreceptor as described in paragraph 17 above, which is incorporated herein by reference. In addition, reference claim 11, which depends from reference claim 1, further requires that the photoconductive layer in the organophotoreceptor further comprise a binder.

The reference claims of Application'785 do not recite that the photoconductive element comprises a charge generation layer comprising the charge generation material and a polymeric binder and a charge transport layer comprising the charge transport compound and a polymeric binder as recited in instant claim 7. Nor do the claims recite that the organophotoreceptor comprises a flexible belt or a drum to support the electrically conductive substrate as recited in instant claim 10.

However, multi-layered photoconductive elements and the use of flexible belt or drum in organophotoreceptors are well known in the electrophotographic arts. Diamond discloses that

photoreceptor fabrication involves the sequential application of one or more layers. Page 395, lines 10-11. Figure 9.7 in Diamond illustrates a "typical photoreceptor cross section." The photoreceptor in Figure 9.7 comprises a charge generation layer and a charge transport layer. Diamond discloses that the photoconductive layer can equally be a single layer that functions as both a charge generation and a charge transport layer. Page 395, lines 25-27. Diamond further discloses that the support of the photoreceptor can be a metal cylinder, i.e. a drum, or a flexible belt. Page 395, lines 12-13, and page 396, lines 4-9.

It would have been obvious for a person having ordinary skill in the art, in view of teachings in Diamond and the subject matter recited in the reference claims of Application'785, as evidenced by that portion of the disclosure in Application'785 that supports the subject matter recited in the claims of Application'785, to make and use a photoconductive element comprising a charge generation layer comprising the charge generation material and a polymeric binder and a charge transport layer comprising the charge transport compound and a polymeric binder as recited in instant claim 7, and to use a metal cylinder or a flexible belt to support the electrically conductive substrate in the organophotoreceptor rendered obvious

over the claimed subject matter recited in Application'971. That person would have had a reasonable expectation of successfully obtaining an organophotoreceptor that is capable of being used in an electrophotographic process to proved toned images.

19. Claims 1, 5, 7-14, 18, 28, and 32 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-17 and 22-25 of copending Application No. 10/760,039 (Application'039).

Although the conflicting claims are not identical, they are not patentably distinct from each other because the claimed subject matter recited in Application'039 renders obvious the subject matter recited in the instant claims.

Reference claim 5, which depends from reference claim 1, recites an organophotoreceptor comprising a photoconductive element and an electrically conductive substrate, where the photoconductive element comprises a charge generation material and a charge transport compound. Reference claim 3, which depends from reference claim 2, which depends from reference claim 1, requires that the photoconductive element further comprise a second charge transport compound, which meets the

second charge transport material limitation recited in instant claims 8 and 9. Reference claim 7, which depends on reference claim 1, requires that the photoconductive element comprise a charge generation layer comprising the recited charge generation material and a polymeric binder and a charge transport layer comprising the recited charge transport compound and a polymeric binder. This multi-layered photoconductive element meets the layer structure recited in instant claim 7. Reference claim 13, which depends from reference claim 9, recites an electrophotographic imaging apparatus comprising a light imaging component and an organophotoreceptor comprising a photoconductive element and an electrically conductive substrate, where the photoconductive element comprises a charge generation material and a charge transport compound. Reference claim 10, which depends from reference claim 9, requires that the apparatus further comprise a toner disperser, which meets the toner disperser component recited in instant claim 12. Reference claim 12, which depends from reference claim 11, which depends from reference claim 9, requires that the photoconductive element further comprise a second charge transport material, which meets the second charge transport material limitation recited in instant claims 13 and 14. Reference claim 15, which depends from reference claim 9,

requires that the photoreceptor comprise a belt or a drum to support the electrically conductive substrate, which meets the substrate limitation recited in instant claim 10. Reference claim 24, which depends from reference claim 22, recites a charge transport compound.

The charge transport compound recited in reference claims 5, 13, and 24, is represented by the formula recited in reference claims 1, 9, and 22, respectively, where the groups Y and Y′ can be a 9-fluorenylidene group, which meet the Y and Y′ group recited in the instant claims. Formula (1) comprises the group -X-Z-X′-, where the groups X and X′ are aromatic groups. Reference claims 4, 16, and 23, which depend from reference claims 1, 9, and 22, respectively, recite that groups X and X′ are $-C_6H_3-$, i.e., a trivalent phenyl group. Reference claims 8, 17, and 25, which depend from reference claims 1, 9, and 22, respectively, require that the linking group Z be $-(CH_2)_m-$ where m is an integer of 1 to 20 and one or more of the methylene groups can be replaced with an aromatic group. Thus, the group -X-Z-X′- in the formula recited in Application′039 can be $-C_6H_3-$(aromatic group)$-C_6H_3-$, which meets the "conjugated linking" group X recited in the instant claims.

It would have been obvious for a person having ordinary skill in the art, in view of the subject matter recited in the

claims of Application'039, to make and use a charge transport compound that comprises two azine-containing 9-fluorenylidene groups that are joined via the group -C_6H_3-(aromatic group)-C_6H_3-, such that the resultant compound is within the compositional limitations of the formula recited in the instant claims, and to use the resultant compound as the charge transport material in the organophotoreceptor and in the imaging apparatus recited in the claims of Application'039. That person would have had a reasonable expectation of successfully obtaining a charge transport compound that is capable of transporting charges in an organophotoreceptor, and an organophotoreceptor and an electrophotographic imaging apparatus that are capable of being used in an electrophotographic process to proved toned images.

20. Claims 2, 15, and 29 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 3, 4, 6, 16, 17, 19, 30, 31, and 33 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

The prior art of record does not teach or suggest the charge transport comprising the linking group X recited in those claims.

21. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Janis L. Dote whose telephone number is (571) 272-1382. The examiner can normally be reached Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's acting supervisor, Mr. Nam Nguyen, can be reached on (571) 272-1342. The central fax phone number is (703) 872-9306.

Any inquiry regarding papers not received regarding this communication or earlier communications should be directed to Supervisory Application Examiner Ms. Claudia Sullivan, whose telephone number is (571) 272-1052.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JLD
May 23, 2006

Janis L. Dote
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